HTU-C / DDM+

CLEI: T1L3B5BA__

STATUS LEDs

STATUS	●	RED	Alarm on any HTU-C loops, HRE loops, DSX or DS1 interface
	✳	FLASHING	Signal Quality of 0 or No Sync on at least one loop
	●	YELLOW	Loopbacks active
	✳	FLASHING	In-band loopbacks armed
	●	GREEN	Functioning properly
	✳	FLASHING	ES, SES, or BPV detected at either DSX or DS1 interface

RS-232 DB-9 CONNECTOR

- Used to access the HDSL utilities menu tree via VT100 emulation software such as terminal, Hyper Terminal – Private Edition and ProComm Plus.
- Provision terminal port as follows:

  Data Rate — 9.6 kbps, 19.2 kbps
  Asynchronous Data Format — eight data bits, no parity (none), one stop bit

- Hardware Flow Control should be disabled.
- When using a PC with terminal software, be sure to disable any power saving programs.

COMPLIANCE CODES

This product complies with UL 1459, third edition. It is intended to be installed in an enclosure with an Installation Code (IC) of "B" or "E" and in Restricted Access Locations only. Input current at maximum load is 0.7 A. Output ratings on the network are maximum 165 mA at -190 Vdc.

Code	Input	Output
Power Code (PC)	F	C
Telecommunication Code (TC)	–	X
Installation Code (IC)	A	–

WARRANTY

Warranty for Carrier Networks products manufactured by ADTRAN and supplied under Buyer's order for use in the U.S. is ten (10) years. For a complete copy of ADTRAN's *U.S. and Canada Carrier Network Equipment Warranty*: (877) 457-5007, Document #414.

HAROWARE SWITCHES

SW1

- Rotary switch sets the DSX-1 line build out

0	0 — sets LBO to 0-133 feet
1	133 — sets LBO to 133-266 feet
2	266 — sets LBO to 266-399 feet
3	399 — sets LBO to 399-533 feet
4	533 — sets LBO to 533-655 feet

Note: Positions 5,6 & 7 are not used.

SW2

- Is used to provision the card. Default settings are in bold.

SW2-1 — sets the line code to either AMI or B8ZS
SW2-2 — sets the T1 framing to either Unframed or Framed

Note: Unframed operation ignores the setting of SW2-3.

SW2-3 — sets the T1 framing to either SF or ESF
SW2-4 — Enables or disables the NIU loopback option
SW2-5 — Enables or disables the Loopback Timeout option
Default timeout setting is 20 minutes
Must be enable prior to initiating a loopback

SW3

- Selects the span powering voltage

LV — selects –140 Vdc to span power a single HTU-R or one HRE and an HTU-R
HV — selects –190 Vdc to span power two HREs and an HTU-R

CAUTION!
SUBJECT TO ELECTROSTATIC DAMAGE OR DECREASE IN RELIABILITY.
HANDLING PRECAUTIONS REQUIRED.

For complete Installation and Maintenance: (877) 457-5007, Document #461. Please have your fax number available.

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HOSL TROUBLESHOOTING GUIDE

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61246003L2-22B

INDICATIONS AND PROBABLE CAUSES

Front Panel or Circuit Parameters Indicate Abnormal Operation

Connect a terminal emulator via the RS-232 (DB-9) craft interface on faceplate. The terminal must be VT100 or compatible and set for 1.2 to 19.2 kbps, 8 data bits, no parity, 1 stop bit. Tap the space bar to establish communication with the unit. Select "M" from the ADTRAN Screen and "1" from the HDSL main menu. Verify the following conditions on the Current System Status Screen:

- Is signal quality fluctuating (graphical meter indicators bouncing up and down)?
- Is LOSS (pulse attenuation) > 30 dB?
- Are there any errors counting on the ES, SES, or UAS registers?
- If signal quality is NOT fluctuating, is it equal on both loops?
- Is the current signal quality indication (uppermost "x" on the meter) more than 1 dB below the MAX?
- Is the current LOSS reading more than 1 dB below the MAX?

If any of these conditions exist, a cable problem is probable and cable testing should be done to verify all HOSL deployment guidelines are met. These conditions may also reflect intermittent cable faults or excessive noise impairments. If intermittent faults or noise impairments are suspected, select "2" from the HDSL main menu and review the Performance History Screen. If all of the above conditions are met, as well as the HDSL Deployment Guidelines (noted below), the circuit should provide quality service and can be released.

Front Panel Indications Under Normal Operation:

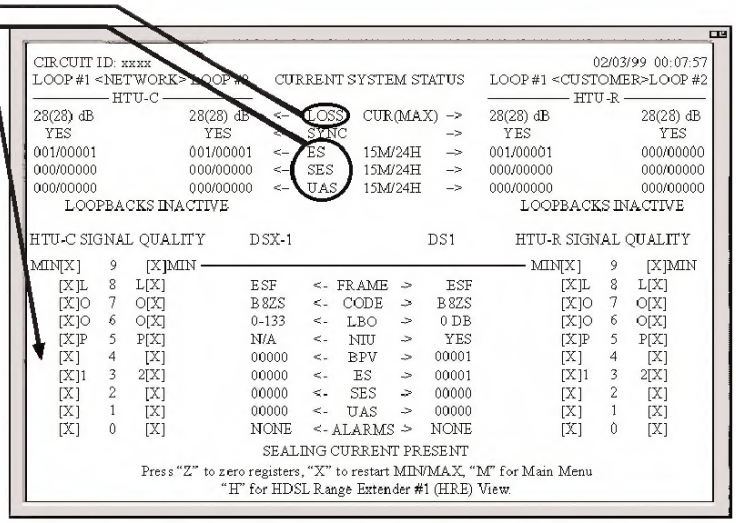
STATUS ● Green

Circuit Parameters Under Normal Operation:

LOSS < 35dB

Signal quality of 6 dB or higher, with no fluctuation and equal on both loops

All HDSL Deployment Guidelines are met



HDSL DEPLOYMENT GUIDELINES

- Cable pairs must be non-loaded
- Total bridged tap < 2.5 kft
- No single bridged tap > 2 kft
- 196 kHz insertion loss < 35 dB
- Pulse attentuation (loss on HDSL current system status screen) 30 dB
- Maximum loop resistance is 800 Ω
- Impulse noises < 50 dBm as measured using a 50 kHz filter and quite termination
- Wideband noise ≤ 31 dBm as measured using a 50 kHz filter and quite termination

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